EESA09H3 – Wind (L01/L02)

Instructor: Tanzina Mohsin
Room: EV364
Email: tanzina.mohsin@utoronto.ca (please read the email policy at the end before you send an email)

Office Hours (applicable until December 4)
Thursdays: 4:00 pm to 5:00 pm (will start on September 11, 2023)
Mondays (VIRTUAL): 2:30 pm to 3:30 pm (will start on September 18, 2023)
Other time: Virtual and one-on-one in-person meeting can be done by appointment ONLY via email

Teaching Assistants
TBA

Lecture Time and Place

Thursday, 6:00 pm-9:00 pm (SW319)

Course Description

A survey of the science, history and applications of wind. Topics include storms including hurricanes, tornadoes and midlatitude cyclones, global circulation, local circulations, measurement of winds, impact of winds on land surfaces, wind power, winds and pollution, historical and literary winds, and contemporary ways to look at the actions of wind in our society through various lenses. No prior knowledge of environmental science is required.

Course Learning outcomes

At the end of the course students should:

1. Comprehend the scientific principles underpinning wind formation.
2. Analyze and elucidate the mechanisms driving various synoptic weather phenomena.
3. Explain the methodologies employed for measuring wind and other climatic variables.
4. Describe the process of wind energy generation and its underlying mechanisms.
5. Establish meaningful connections between wind actions and tangible real-world weather and climate occurrences.

Course Requirement (textbook and participation)

We will be using Top Hat (www.tophat.com) for some participation and homework. In addition, we will be using the custom-built interactive textbook Wind within Top Hat for this class. Given that the course has web option students, working through TopHat

HomeWorks throughout the semester will be extremely beneficial for everyone to get prepared for midterm and final exam.

We will be using Top Hat to access the digital textbook: if you already have a Top Hat account, you can go to (https://app.tophat.com/e/696194) to be taken directly to our course digital textbook.
If you are new to Top Hat:
Go to https://app.tophat.com/register/student
Search for our course textbook with the following join code: 696194
For more information about the interactive features in the textbook, click here:
https://success.tophat.com/s/article/Student-Using-Your-Textbook

Should you require assistance with Top Hat at any time please contact their Support Team directly by way of email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491. Specific user information may be required by their technical support team when troubleshooting issues.
Should you require assistance with TopHat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.

Please email me at tanzina.mohsin@utoronto.ca if you have any questions regarding the course content on Tophat.

Tentative Lecture List

1. Introduction	Week 1
2. Science of WIND	Week 2
3. Global Wind Circulation	Week 3
4. Hurricanes	Week 4
5. Midlatitude Cyclones	Week 5
6. Reading week	Week 6
7. Thunderstorms and Tornadoes	Week 7
8. Midterm (tentative)	Week 7/8
9. Polar lows and other storms	Week 9
10. Thermal Wind	Week 10
11. Measurement of wind	Week 11
12. Wind and Pollution	Week 12
13. Wind as a source of Power	Week 13
14. Changing wind with Climate Change	Week 14

Grading Scheme

Midterm Test - 25%
Participation (quizzes + participation assignments) - 20%
Contemporary analysis of wind related issues – 5%
Final Exam - 50%

Quizzes will be held after each lecture starting on September 16 for both sections Via quercus. Each quiz will cover the materials from the week before. If you miss a quiz, there is no makeup and you will miss out a participation opportunity. Participation opportunities will also be available to a maximum of 7% in addition to the contemporary wind analysis of 5% . All participations posted at Quercus should be submitted via Quercus. Details of the quizzes and participations will be discussed during the lecture and will be posted on the Quercus.

Required Readings

In addition to the textbook at TopHat, all lectures with supplementary reading materials will be posted on the course web site on Quercus. If you are interested to learn more on the topics covered in this course, you can use the following reference as an additional source. "Understand Weather and Climate" – Edward Aguado and James E. Bert.

Midterm

Week of October 16 or 23 (tentative). Time and place (additional room) to be announced. ***I expect all students (both in-class and web option students) to write the midterm exams in-person except under the most severe and exceptional circumstances.*** I will not accept having a cold, a stomach ache, or headache, or something of that sort as a valid reason for not writing any midterm.

If, for some extraordinary reason, you do miss a midterm, please notify me within 24 hours of the exam in person or by email. A non-vague note from a doctor will be required on the **U of T medical form**.

Midterm and Final exam format

Same format for both exams, only differing in quantity.

1. True or false questions and Multiple-choice questions
2. Short answer questions
3. Concept maps
4. Special topic/ readings related questions

How to study for the exams

You must study the book chapters available through Tophat in addition to the lecture slides, for the tests and exams. The major topics are elaborated in the chapters. In order to understand a specific topic and to describe it in detail on the exam paper these are very helpful. The lecture slides provide a guide to study the topics. However, studying only the chapters of the textbook (on Tophat) are also not recommended because the lecture slides have figures, plot, pictures and other information that are not available in the chapters. PLEASE NOTE THAT THE VIDEOS THAT ARE USED DURING LECTURE OR USED FOR PARTICIPATION OUTSIDE OF LECTURE ARE IMPORTANT FOR MIDTERM AND FINAL EXAM.

Emails

I welcome communication via email for matters related to the course. However, I kindly request that you refrain from sending emails inquiring about information readily available in the syllabus or on Quercus. Furthermore, I have designated office hours for test pickup, and these hours will be strictly adhered to (as posted on Quercus). To help me better identify and prioritize your emails, please include "EESA09" in the subject line.

While I provide my email address for urgent matters, I strongly encourage you to utilize office hours for in-person discussions regarding any concerns or questions. Please note that you should only use the email address listed at the top of this course outline for correspondence.

Copyright statement

The University of Toronto has strict Copyright policy, and there are very specific rules guiding the copying of materials for academic and personal uses. The students in this course can use the materials provided in the course for study purposes only. Any type of copying, sharing, posting or selling of the course materials to a third party (either in person or on the web) will fall under copyright violation Act. Fines and penalties for copyright infringement are significant. In addition, for reasons of privacy as well as protection of copyright, unauthorized video or audio recording in classrooms is prohibited.

Course Rules on Missed work

Missed Work:

- A penalty of 5% per day for any late assignment

PLAGIARISM

University of Toronto code of Behavior on Academic Matters states that "it shall be an offense for a student knowingly: to represent as one's owned any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e., to commit plagiarism." Refer to this page to learn about how not to plagiarize.
https://advice.writing.utoronto.ca/using-sources/how-not-to-plagiarize/

For accepted methods of standard documentation formats, including electronic citation of internet sources please see the UofT writing website at:
http://www.writing.utoronto.ca/advice/using-sources/documentation

For citing resources consult the following website
https://q.utoronto.ca/courses/264288/pages/using-and-citing-resources

The full Code of Behavior regulations could be found from consulting
https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019

writing and English language

As well as the faculty writing support, please see English Language and writing support at University of Toronto: http://www.sgs.utoronto.ca/currentstudents/Pages/English-Language-and-Writing-Support.aspx
Students have commented that they found the latter address extremely helpful for writing term papers.

- Be wary of the fine line between working together and plagiarizing
- Medical documentation is needed if you require an extension due to sickness

ACCESSIBILITY NEEDS

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact The UTSC Accessibility Services as soon as possible:
https://www.utsc.utoronto.ca/ability/resources-students

We also suggest you also refer to the following University of Toronto Scarborough Library link:
http://utsc.library.utoronto.ca/services-persons-disabilities

ACADEMIC INTEGRITY

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, U of T Scarborough treats cases of cheating, plagiarism, and other academic offences very seriously.

The University of Toronto's Code of Behaviour on Academic Matters outlines behaviours that constitute academic dishonesty and the process for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

1. Using someone else's ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

1. Using or possessing unauthorized aids.
2. Looking at someone else's answers during an exam or test.
3. Misrepresenting your identity.

In non-academic work:

1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required, including (but not limited to) doctor's notes.

USE OF AI IN COURSES: FROM THE GUIDELINE AT UTSC

This course policy is designed to promote your learning and intellectual development and to help you reach course learning outcomes.

- Students can make use of technology, including generative artificial intelligence tools, to contribute to their understanding of course materials if suggested by the instructor
- The use of generative artificial intelligence tools or apps for assignments in this course, including tools like ChatGPT and other AI writing or coding assistants, is **prohibited**. (It is highly unlikely since the assignments are customized based on data)
- The knowing use of generative artificial intelligence tools, including ChatGPT and other AI writing and coding assistants, for the completion of, or to support the completion of, an examination, term test, assignment, or any other form of academic assessment, may be considered an **academic offense** in this course.
- Representing as one's own, an idea, or expression of an idea, that was AI-generated may be considered an academic offense in this course.
- Under any circumstances, any content produced by an artificial intelligence tool must be cited appropriately. Many organizations that publish standard citation formats are now providing information on citing generative AI (e.g., MLA: https://style.mla.org/citing-generative-ai/)